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Year: 2012

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DOI: <https://doi.org/10.1515/9783110275681.93>

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ZORA URL: <https://doi.org/10.5167/uzh-64838>

Book Section

Published Version

Originally published at:

Glaser, Elvira; Bucheli Berger, Claudia; Seiler, Guido (2012). Is a syntactic dialectology possible? Contributions from Swiss German. In: Ender, Andrea; Leemann, Adrian; Wälchli, Bernhard. Methods in Contemporary Linguistics. Berlin, Germany: de Gruyter, 93-120.

DOI: <https://doi.org/10.1515/9783110275681.93>

# Is a syntactic dialectology possible? Contributions from Swiss German

*Claudia Bucheli Berger, Elvira Glaser and Guido Seiler*

## 1. Why study dialect syntax?

There is no doubt that syntax has been the most neglected linguistic subsystem in classical dialectology although there have been several serious attempts by dialectologists to establish dialect syntax as a relevant and interesting research area (Weise 1909; Sperschneider 1959; Hodler 1969; Patocka 1989, Tatzreiter 1989; see Glaser 1997).<sup>1</sup> In a pioneering paper from 1994, Iwar Werlen not only acknowledges the importance of dialect syntax for both dialectology and theoretical linguistics, but he also outlines a research program for the exploration of Swiss German syntax which turned out to be remarkably fruitful. Werlen's (1994) approach is unusual in yet another way: Whereas dialectology remained largely innocent with regard to advances of modern theoretical linguistics (and vice-versa), Werlen argues that questions of syntactic theory shed new light on 'raw' phenomena which so far remain understudied, and at the same time a deeper examination of dialectal syntactic structures may help in finding answers to questions of rather theoretical, general relevance.

Just how pioneering Werlen's thoughts from the early 1990s were, becomes evident if we take into account how much the situation has changed within the last twenty years. In several European countries large-scale surveys of the geographical structure of syntax have been compiled (the earliest survey projects stemming from Northern Italy, Lower Bavaria, The Netherlands and Belgium, Great Britain and Switzerland, all starting around the year 2000; cf. [www.dialectsyntax.org](http://www.dialectsyntax.org), 'Network', for more information on these and other, more recent projects; see Kortmann 2010 for a recent overview of the field). It is interesting to note that the theoretical impetus comes from two opposing sides, which, however, share their general-linguistic orientation: generative syntactic theory on the one hand, and (functional) linguistic typology on the other.

In the present paper, we will first discuss the conceptual question as to why *dialect* syntax should be studied after all, and why a great proportion of ongoing research has a clear dialect-*geographical* focus. We will then discuss methodological issues of data collection, referring to our experience based on the exploration of Swiss German dialect syntax (Section 2). We conclude with a few remarks on the cartographic presentation of the results (Section 3).

Dialectologists' innocence vis-à-vis developments of modern linguistic theory has not been restricted to syntax, the formidable tools of generative grammar or the incorporation of typological generalizations. As for phonology, the basic principles of structural phonological theory were laid out by Trubetzkoy in 1939 already. Despite the fact that many of Trubetzkoy's ideas are prefigured in the dialectological work by Winteler (1876), the potential of the structuralist method for dialectology was still an open issue in 1954 when Uriel Weinreich published his ground-breaking article *Is a structural dialectology possible?*, a question to which Weinreich's answer is a clear "yes". From the point of view of general linguistics, it is surprising to note that during (and after) Weinreich's times it was seemingly not obvious that dialects should be a legitimate and relevant object of serious linguistic study. For the central design features of language (Hockett and Altmann 1968) underlie, of course, *all* natural languages, spoken or written, high or low in prestige, wide-spread or local. As Weiß (2001) points out, dialects can be seen as even 'better' natural languages as compared to written standard languages since dialects are relatively free from arbitrary codifying interventions. They are acquired as first languages without formal instruction and the result of naturally occurring language change.

Interestingly, the impetus for an increased interest in dialect syntax stems not so much from the classical modern language disciplines but rather from general linguistics: generativism on the one hand, and typology on the other. As for generativism, the study of dialect variation made it possible to determine more precisely the nature of syntactic parameters since dialect variation presents us with the smallest possible contrasts between otherwise very similar grammars, although it is questionable whether a specialized set of 'microparameters' should be introduced into the linguist's toolkit (Kayne 2005: 7; De Vogelaer and Seiler, *forthc.*). From the typological perspective, the interest in dialect syntax is twofold. As for typology, we note that the description of the typological landscape of Europe has been biased in favor of the codified standard varieties. The inclu-

sion of vernaculars is a necessary corrective which will be discussed in greater detail below.

However, the late discovery of dialect syntax is not only due to dialectologists' general reservation against modern structural linguistics, but also, and paradoxically, due to progresses in spoken language research (at least as far as German is concerned). Still Löffler (2003: 110–113) seriously questions whether there are genuine dialectal syntactic rules at all, arguing that syntactic properties often attributed to dialects, in fact, reflect just deviations commonly found in spoken registers in general. The issue is discussed by Lötscher (2004) and Louden (2005). Both authors agree in their acknowledgment of genuine dialect-specific syntactic rules. Lötscher starts from well-known patterns of spoken syntax which he accounts for by reference to syntactic 'epi-rules' (2004: 157) modifying a more basic structure. He then convincingly shows that at least a significant proportion of these seemingly general strategies of spoken syntax are indeed specific to individual dialects. Louden (2005), in response to Lötscher (2004), argues that the idea of 'epi-rules' which are manifest in spoken language is misleading altogether: "rules are rules" (Louden 2005: 180), irrespective of their manifestation in spoken or written media; rules may be universal, language specific, dialect specific or even idiolect specific. Whereas we fully agree with Louden's conclusion that there is no linguistically relevant distinction between the underlying rule systems of written 'languages' or spoken 'dialects', we must admit that Louden does not give a clear hint as to how dialect specific rules can be detected after all: If dialect syntax is rule-governed like any other syntax, how can dialectal syntactic patterns be isolated from more general patterns, prevalent in a whole group of varieties/languages, or even be universal?

We believe that the only way of proving the dialect-specificity of a syntactic pattern is cross-dialectal micro-comparison (Lötscher's (2004) contribution is attempting precisely that). To put it differently: The only irrefutable proof for the existence of genuine dialectal syntactic rules is the discovery of syntactic isoglosses. We see in this fact the main reason why so much effort is spent to collect and analyze syntactic geolinguistic data. In recent years, the existence of syntactic isoglosses has been attested in all languages wherever an effort has been made to uncover them. Whereas the sheer existence of genuine dialectal syntactic structures is out of question now, let us just briefly note that all other kinds of results would be very surprising indeed: It is a well-established idea that phonological, morphological or lexical isoglosses are the result of (perhaps still ongoing) change

whereby an innovation gradually spreads from one area into others. If syntax were the only area of grammar where isoglosses do not exist we would be forced to conclude that syntax is immune against change and its synchronic reflex, variation. This would be a very surprising finding with no obvious linguistic explanation.

An important characteristic of the geolinguistic method applied in recent large-scale investigations is its full coverage of a particular area. Only this gives us a true chance to uncover the smallest possible contrasts between grammars, thus the minimal units of cross-linguistic variation. Moreover, full coverage of space does not lead us into the temptation of distinguishing between *a priori* 'relevant' and 'less relevant' dialects. It is often the case that certain syntactic variants are restricted to particular, relatively small areas which would otherwise easily be ignored.

Let us conclude this section with a prospect on possible impacts of the improving documentation of dialectal syntactic structures on language typology. Chambers (2004) hypothesizes that there is a set of structural traits which tends to show up in non-standard varieties wherever they are spoken, so-called 'vernacular universals'. If vernacular universals exist, the consequences for linguistic typology would be remarkable: It would mean that typological options are not equally (randomly) distributed in languages, but that they rather cluster not only in particular areas (as we know from areal typology) but also in particular variety types. We are skeptical against Chambers' proposal for three reasons. Firstly, many of the features discussed by Chambers (2004) are entirely English-specific (such as subject-verb non-concord, alveolar substitution in *-ing*, etc.). Secondly, those of Chambers' vernacular features, which are likely not English-specific (such as final obstruent devoicing, cluster simplification, multiple negation), seem to reflect very natural, unmarked typological options. We suspect that vernacular universals are just language universals. Thirdly, if cross-linguistically recurrent asymmetries in the distribution of typological options between codified standard languages and vernaculars can indeed be found, we would like to think of an alternative explanation: Assuming that vernaculars reflect typological preferences in a more consistent way, the deviating variety type, and therefore the one in need of explanation, is the codified standard language. It might be the case that 'standardversals' are at work instead of 'vernacular universals'. This perspective may shed new light on an at first glance unrelated topic, namely the areal typology of European languages. It is a widely accepted fact that in European languages structural options cluster together which are typologically rare from a

worldwide perspective, so-called Standard Average European features (Whorf 1941). European languages form a sprachbund, which means that their similarities are the result of areal convergence (Haspelmath 2001). However, this is especially true for European *standard* languages. Areal typologists have yet remained rather agnostic about the robustness of a European sprachbund at the level of spoken vernaculars (but see Kortmann 2009 on the ‘Europeanness’ of nonstandard English). If we relate the discussion of Standard Average European to Chambers’ idea of vernacular universals (which exist, if at all, merely in the form of recurrent typological standard-nonstandard contrasts), we might conclude in a very preliminary way that the Standard Average European features are properties of codified standard languages in the first place; we might expect that Europeanisms are less articulate at the level of spoken vernaculars. If this is correct, the European sprachbund is the result of common pathways of standardization rather than a matter of genuine areal convergence. Whether there is also a set of ‘Non-Standard Average European’ typological features is subject to future research.

## **2. Pioneering explorations of the dialectal syntax in Swiss Alemannic**

In 1994, Werlen presented an astucious analysis of the malaise preventing prosperous research in dialect syntax at that time. He diagnosed that the traditional dialectologist’s methods weren’t suitable to describe syntax. Written questionnaires, the translation of orally given word lists in interviews, the reading out of texts or word lists, the so called *conversation dirigée* or the reporting of events: each one of these methods produced some results but not the desired data set for syntax (Werlen 1994: 52). He stated that the real problem was not only a methodological one but was also conditioned by the traditional dialectologist’s diachronic-documentary goal of research which was not fitting at all with the syntactician’s goal of research.

### **2.1. Not a purely methodological problem**

Since the 1940s, traditional dialectologists – being real pioneers in gaining dialectal data at all – have focused on documenting ‘old’ or ‘special’ words and forms, hoping that some dialects of the southern part of Switzerland had preserved them because this should enhance the writing of the history

of the German language as a whole and give fruitful insights into the linguistic history of the Alemannic dialect. In the 1990s, a researcher interested in syntax and morphosyntax found himself confronted with a bulk of material left by the pioneers, containing little but at least some information on syntax or syntactically conditioned morphology.

For example, map III 263 in the *Sprachatlas der Deutschen Schweiz* (SDS) shows where a particle *la*, supposedly a shortened form of the infinitive *laa* ‘to let’, is inserted into the sentence ‘let him LA go’, i.e. the imperative verb form ‘let!’ is followed first by the clitic pronoun, second by the particle *la*, and then by the infinitive. In the central part of Swiss Alemannic this particle is always added, in the western part it seems to be optional and in the eastern part (besides the canton Graubünden) it does not occur (cf. Map 1).

Maps perfectly demonstrate what the traditional dialectologist was interested in. He was simply wondering in which dialectal zone *la* existed, how old its invention might be, if it is its presence or its absence that was expanding and if the isogloss coincided with other isoglosses. The syntactician’s questions are much more complex: She wants to know if *la* is a (pseudo-)verb-doubling or a particle introducing the infinitive, if it occurs in the present and the perfect as well as the imperative, or if the construction can contain a full NP (‘let LA the dog go’; ‘let the dog LA go’) instead of the clitic pronoun (‘let him LA go’). By the way, she wants to have evidence *ex negativo* in order to be sure that \*‘let LA him go’ really does not exist. Furthermore she wants to correlate this presumed doubling phenomenon with other verbal doublings and doubling phenomena in general (see Lötscher 1993, Glaser and Frey 2007). This is definitely not what the traditional map-maker wanted to show (at his time a map was a kind of visible data base, a visually consumable slip box). At least, a modern syntactician looking at map 263 can hypothesize that there are probably three different grammars of *la* that she has to determine: the range of obligatoriness of *la* in the center zone, the kind of optionality in the western zone and if *la* really lacks in the eastern zone.

Whereas the dialect geographer was just interested in the same (small) piece of information in each of the many places of investigation, the dialect syntactician wants to explore the detailed grammar of one dialect, and then compare this grammar1 with the grammar2 of another dialect etc. It is clear that traditional dialect geographical maps can only be a starting point for modern syntacticians, not the goal (see part 3 for modern geographical mapping of dialectal syntax).

In the 1990s, Werlen's view was that, in (dialectal) syntax, a deductive approach is necessary (1994: 53): a theory establishes a phenomenon as relevant. The relevant facts cannot be gotten from a simply descriptive collecting of rare or special phenomena, but they have to have been tested theory-driven (whatever the theory on syntax or the hypothesis on a variable may be). Concerning the geographical treatment of dialectal syntax, he forecasted that not only single variables should be localized, but syntactic rules or principles (depending on the theory) (1994: 54). He emphasized that a theory should be able to predict also minimal dialectal differences because such differences should also be compatible with Universal Grammar (for the present-day discussion of this point see part 1).

## 2.2. Data collecting methods

Concerning the question how syntacticians should gain their dialectal data, Werlen resolutely argues against corpus analysis (1994: 52). Though he thinks that this method is suitable for the examination of those parts of grammar that contain small and closed inventories, such as phonology or a part of morphology, he argues strictly against the application of this method to syntax. Syntax is a matter of rules and predictions on the grammaticality of sentences. Werlen (1994: 56) considers the competent speaker's judgment on a sentence the only way of data collection in syntax. He thinks that it is characteristic of works on dialectal syntax that they are often written by researchers who are native speakers of the dialect concerned or who know their informants closely (1994: 71).

Inspired by many of such outlines which appeared at this time (Patocka 1989, Werlen 1994, Glaser 2000) and by Gerritsen (1991), an atlas containing syntactical maps, the three authors of this paper devised a plan for the most extensive attempt to collect syntactic data on Alemannic dialects, the project 'Dialektsyntax des Schweizerdeutschen', from 2000-2006, at the University of Zurich (Switzerland) (see Bucheli and Glaser 2002). Given that Werlen's ideal of introspection by the researcher him-/herself is not feasible if one wants to examine Swiss Alemannic dialects in 300-400 different places, the three authors of this paper invented what we retrospectively call 'the Zurich Written Questionnaire Method' for the exploration of dialectal syntax in space. Subsequently, the method has been applied to the investigation of dialectal syntax in Vorarlberg (Oliver Schallert, University of Marburg, cf. Schallert 2010), in the area of the Lake of Konstanz (Ellen Brandner, University of Konstanz), in Hessen (Jürg Fleischer, Alexandra



Lenz, Helmut Weiß, Universities of Marburg, Vienna and Frankfurt, cf. Fleischer, to appear) and in the Moselle-Franconian area (Tim Kallenborn, University of Vienna, cf. Kallenborn, submitted). However, it is important to note that the method is designed for the specific needs of a large geolinguistic survey, sociolinguistically embedded in diglossic German-speaking Switzerland. We suspect that the method encounters additional difficulties if used in another, e.g. *diaglossic* (Auer 2005) environment where interferences from varieties closer to the standard are highly expectable. This might be avoided by using large corpora of spontaneous speech (if they are electronically available); however, due to the limitations discussed above, corpus analysis is restricted to highly frequent phenomena, and the geographical picture gained from corpora remains very coarse (Seiler 2010: 513–514).

Firstly, we chose the written way of investigation in order to save costs and time. The disadvantage of this approach is evident: a loss of control on the authenticity of the informants' social reporting and on the moment when the informants filled in the questionnaires (problems of concentration, misunderstandings, transcription). Concerning the rest of the research design, there are much more advantages than disadvantages to the written method. Every informant was confronted with the same situation: read the instructions in Standard German, read the questions in Standard German, note answers in his/her dialect. The observer's paradox was the same for every informant. No informant was influenced by the explorer's dialect or the need of inter-dialectal situation (to adapt in the oral communication with an external explorer). The informants decided themselves when to fill in the questionnaire and how much time to spend on it.

Secondly, in order to get a more representative sample and to be able to model change, the questionnaires were filled in by several informants per place (Table 1). The informants are speakers of the local basis-dialect, still living in their place of origin, in second generation. They belong to different age and professional groups, both sexes. Thus, our sample is a much more representative group of the base-dialectal local society than the traditional dialectologist focused on<sup>2</sup>, though still excluding speakers influenced by migration. The number of informants averages to 8 per place for the first questionnaire (Table 1). Having the answers to the same questions of several informants also allows testing if the written method succeeded: if only one person gives a certain answer that all the others don't, it can be interpreted as a relict, an innovation or a methodological problem.

Table 1. Statistics of filled in questionnaires (Q = questionnaire)

	1st Q	2nd Q	3rd Q	4th Q	complete set (1st–4th Q)
number of informants	3185	2921	2798	2774	2766
average per place	8.3	7.6	7.3	7.2	7.2
total of places	383	383	383	383	383
> 4 informants per place	376	373	369	370	369
number of questions	20	32	28	38	118

Thirdly, the creation of the questions was processed in the following way in teamwork: After the excerption of the relevant literature on a certain variable concerned, the three researchers based on introspection as dialectal speakers and/or asked their relatives and friends how they would translate a certain sentence. Then, discussions with friends or dialectal TV-shows were analyzed. For us, this served as a kind of ‘teilnehmende Beobachtung’ (participant observation), forming and testing our hypothesis. For our relatives and friends, this was as a typical ‘déformation professionnelle’. After this kind of consultation of reality, the trio created the questions. The sentences to be elicited had to contain

- the variable concerned,
- pan-Swiss-Alemannic words (not words restricted to one area),
- words whose combinations do not cause assimilation or introduction of optional sounds (‘Gleitlaut’) that could trouble the later interpretation,
- clear choice of the people in the context introducing the question, i.e. clear choice of grammatical person, gender, number, or case in the question itself (for more details see Seiler 2010).

Fourthly, the total of 118 questions was split into four parts i.e. four questionnaires that were one by one sent to the informants. This proceeding prevented the informants from getting tired of too many questions at a time, and the researchers could improve step by step the way of asking their questions. Some variables were only asked for by one translation question, some by one multiple choice question and some by both (testing the different results of different question types) (concerning the details cf. Bucheli and Glaser 2002).

We decided to include those phenomena which were already discussed in syntactic theory at the time (such as e.g. verb clusters, clitics, infinitive particles) but also more ‘exotic’ variables hardly ever noticed by syntacticians (such as the expletive in impersonal passives *do wird's gwärchet* (lit. ‘here becomes-it worked’), or word order in *das gfalle tät mir au* (lit. ‘this

please-did me too').<sup>3</sup> The reasoning behind this decision is as follows: An atlas (with modern design) is a *Grundlagenwerk* (handbook), it should serve as an inspiration for new questions of theoretical relevance, questions which have perhaps not even been asked in current discussions.

Fifthly, the answers were analyzed, electronically stored and mapped (see Bucheli Berger 2008 for the technical details), a phase still going on. The detailed validity and interpretation of the 'Laiennotation' (writing by non-trained non-linguists), i.e. the answers to the translation tasks and the spontaneous notations in a multiple choice, remain problems that still need to be discussed.

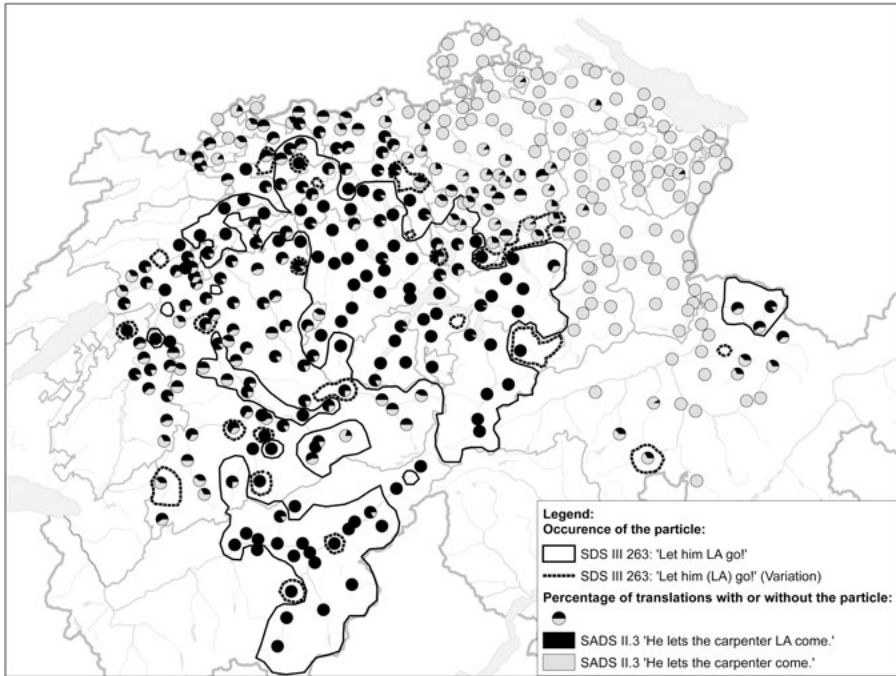
### 2.3 The particle *la*: better documenting and change of use

If we compare data from the SDS, explored in interviews between 1940-1958, with data from the SADS, explored by written questionnaires between 2000-2006, differences may be due either to the different method or to the real time change of the dialects investigated. A map like SDS III 263 'Let him (LA) go', showing a complex areal distribution of the presence and absence of a particle LA, is especially interesting for such a comparison (the presence of the particle may be regarded as a case of syntactic reduplication, a highly unusual construction type for a European language). The SADS made several informants per place translate the Standard German sentence 'Er lässt den Schreiner kommen' (lit. 'He lets the carpenter come'). The percentage of translations with or without the particle LA is given in Map 1.

The SDS III 263 map is redrawn in the following ways: zones where exclusively 'Let him LA go' occurred are circuted by a black line, zones with variation 'Let him (LA) go' are circuted by a black dashed line, and zones without LA ('Let him go') are not marked. Do the three syntactically different zones – we mentioned them in 2.2 – reappear in the modern data? The answer is yes, at least two of them.

- A. The SDS core zone of LA-obligatoriness is rediscovered in the Centre and the Southwest (Wallis).
- B. The SDS eastern zone without LA is also showing up.

This confirms the validity of the written answers to the translation tasks in the questionnaires in general. Further, if we also consider what is different, we will see that the way in which it is different is also an expected one, not a completely aberrant one.



Map 1. Comparison of SDS and SADS-data: occurrence of the particle LA

- C. The mid-western zone of the canton Berne and Fribourg, supposed to vary because of the difficult distribution of presence and absence of LA in the SDS map, reveals much more variation in the modern data. No place exclusively without LA is attested any more. We suppose that change must have happened. LA is expanding. The Standard German original sentence (without LA) obviously does not prevent the modern informants from noting the particle in the questionnaire.
- D. The northern border zone of the SDS core zone in the Center and the contingent SDS no-LA-zone show variation instead of one variant. Today, this variation zone forms a kind of a broad transition belt, from a north-western to a mid-eastern zone. This result shows either that newly both variants (the presence of LA or the absence of LA) flew in the other zone or that the SDS did not get the 'real' distribution due to its methodological and social restriction (by interviewing only one informant, a rural farmer or craftsman).

As a strategy of validation, the comparison of these methodologically different data shows that the 'Zurich Written Questionnaire Method' provided reliable data on syntax. The dialectal changes become evident: the presence

of the particle LA is expanding. The written method does not automatically implement Standard German influence on the data and the results call the sociolinguist's attention to the dialectal variation zones that may be worth of detailed examination.

### **3. Mapping of dialectal syntax**

The final section addresses questions of data presentation. Being convinced that the geographical distribution of linguistic phenomena is a relevant fact, we consider the presentation using maps allowing for a visual perception of the feature distribution in language space the best method to present the data. The other way round, if the data do not present a geographical distribution there is no need for mapping. As for the kind of mapping technique it was the SDS which in the sixties defined a new standard by influencing subsequent atlases of German dialects.<sup>4</sup> It is common belief in German dialectology that the mapping technique should be in line with the two major requirements of accuracy and clarity (cf. Naumann 1982: 673; Haas 2004). As we consider our project in keeping with the SDS, we tried to stay true to its mapping technique. Thus, we worked with symbol maps as they were introduced by Hotzenköcherle in German dialectology. Symbol maps provide a maximum level of accuracy, as they allow the allocating of the variants exactly to the location where they were explored. Chambers and Trudgill (1998: 25) distinguish between interpretative maps and display maps, and they consider the latter "by far the more common". They describe display maps as transferring "the tabulated responses for a particular item onto a map" (25). Thus, they do not distinguish between maps showing the original transcription put on the maps and maps where the responses are keyed to a symbol which is used on the map. Obviously, Chambers and Trudgill do not take into consideration the German tradition from the SDS onwards which neither encodes every elicited variant nor concentrates on the predominant responses. The point symbol maps of the SDS tradition representing the data in a classified manner should be placed somewhere in between. They represent far more simplified maps than display maps with raw data. First of all, the classification allows abstaining from information considered irrelevant in the given context. With respect to our morphosyntactic data this means abstaining from phonetic and lexical variation as can be seen in the following example.<sup>5</sup>

### 3.1. The challenge of variant reduction

The variants *zum e Billett löse* (Rheineck SG) and *zom es Billett z'löse* (Sursee LU) translating the Standard German purposive clause *um ein Billett zu lösen* 'in order to buy a ticket' (Q I.1, cf. Map 2) can be grouped together despite the pronunciation differences (*z[o]m*, *z[u]m*) and differences in morphology (indefinite article *e* against *es*). Such differences, including lexical ones, are not considered relevant for establishing syntactic variants.

The next step is concerned with the classification of different morpho-syntactic types, i.e. also with the possible aggregation of the answers beyond the level of pronunciation and lexis.

The difference between *z'löse*, an infinitive introduced by the particle *z*, and the simple infinitive form *löse* represents a difference in the exact connection of the purposive clause, so it could be considered relevant. Yet, since our major concern remains the difference between the connection with *zum* and another connection type with the prepositional element *für* (cf. *für n'es Billet z'lösä* Elm GL), we concentrated the majority of our focus on this difference. These two construction types are assigned to a symbol, e.g. a dash and a black dot, respectively (cf. Map 2). In principle, we could also have decided to map the distribution of four different types:

- *zum* + infinitive
- *zum* + *z* + infinitive
- *für* + *z* + infinitive
- *für* + infinitive.

The decision about more or less an extensive aggregation of variants is up to the researcher. In the present case, there are several arguments that have lead to a classification of one *zum*-variant and one *für*-variant. Whereas *für* in most cases is combined with a *z* infinitive, *z* before the infinitive constitutes a subvariant of the *zum* construction, which is chosen by nearly a third of the dialect speakers using the *zum* construction. The *zum* + *z* construction is distributed over the whole *zum* area. Including it into the map would not have contributed relevant geographic information. The existence of the *zum* + *z* type is, however, described in the commentary with respect to its geographical and quantitative distribution by mentioning all the locations where only *zum* appears. We consider the information added in the commentary sufficient to understand the type of variation. As it does not provide a geographical distribution, we prefer to leave it out of the map. The *für* + bare infinitive construction is not mapped either. In this case, it is the

very small number of occurrences (20) and the yet unclear grammatical status which motivates the same treatment. The small number of instances insinuates that *z* could have been missed by an oversight. Yet, there seems to be a concentration of *für* + infinitive used in the Valais and southern Bernese region, a distribution which could be an indication of a regional variant. The reader interested in this variant will find the information in the commentary, but the variant is not mapped separately.

It can be seen from this exposition that there are many decisions to be taken in order to compose a symbol map. Therefore it is most important to supply the atlas with an introduction and a commentary, so that everybody can trace back the decisions made in order to judge the mapping. The commentary contains information on the absolute numbers of the mapped variants and on other variants (if any). We are convinced that symbol maps meet the cartographic demands of dialect geography in a more adequate way than maps showing the raw data. The research team drawing the map certainly knows the data best and therefore the abstention from classification would as a result lead to the loss of important information. This conclusion, of course, relates to traditional dialect atlases on paper. The possible online creation of maps on the basis of raw data provided by a research team will certainly change the situation. It could be an ideal future situation to dispose of the experts' maps and provide the possibility to create online maps on the basis of one's own classification of the same data.

### 3.2. Coping with quantity

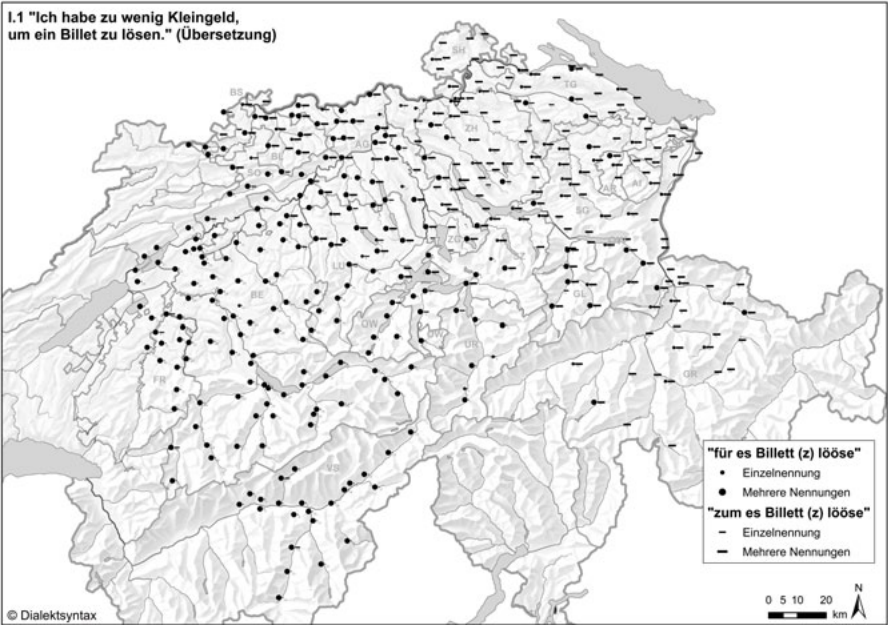
The challenge of variant reduction was not the only challenge for the preparation of maps from our data. As mentioned above, unlike the SDS enterprise we worked with several informants per location.<sup>6</sup> This decision has a great impact on the mapping technique, too. The SDS maps in most cases show one symbol at a location coding the answer of one informant, at least in the case of the phonetic and morphological maps. Sometimes, however, the SDS editors were also confronted with several different answers displayed on the map with different symbols, in particular in the case of lexical maps. This could be due to intra-individual variation, especially in the case of high frequency items as well as to inter-individual variation, when there were data provided by several informants.<sup>7</sup> By contrast, in our project we were quite regularly confronted with differing answers.<sup>8</sup> As a consequence, we had to decide how to pass on the information concerning the proportion of the variants chosen by the informants to the user of the maps.

In our survey the exact number of informants varies considerably. There are locations where only one informant sent back all the questionnaires and others where more than 20 persons collaborated. In 90% of the locations (342), however, the number of collaborators was between 5 and 10. In the end, we cancelled the (few) locations with only one informant in our database. Thus, we ended up with 383 locations distributed all over German-speaking Switzerland. The choice of locations was based on the grid of the SDS locations considering the topographical situation of Switzerland. That is why the sampling grid displayed on our maps may seem unbalanced compared with atlases dividing the investigation area in a grid of equal squares.

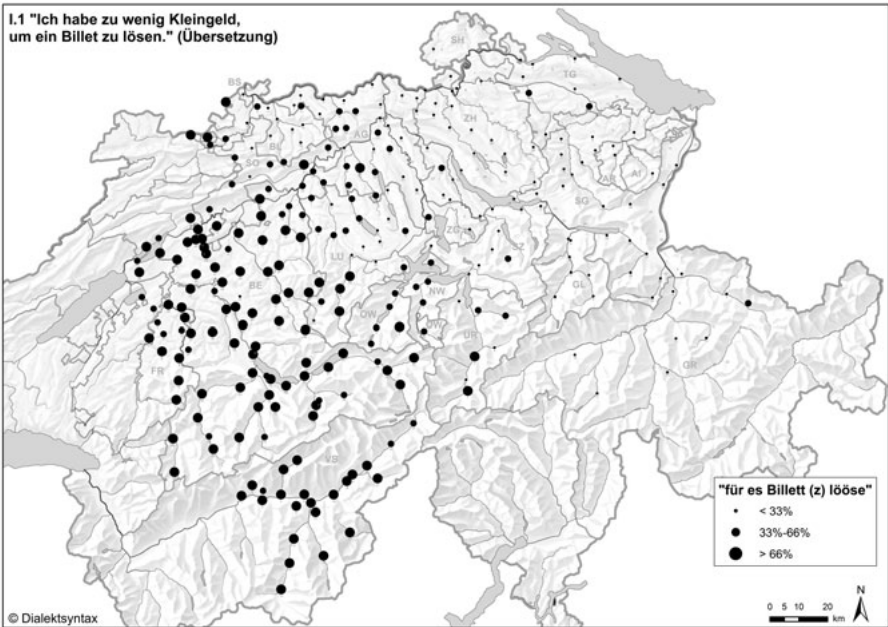
Working with a total amount of about 3'000 informants<sup>9</sup> we were prepared to find a certain number of mistakes and examples of inattentiveness among the answers. It is, however, not to be expected that several persons in one location make the same mistake. Singularly occurring answers are therefore marked as minor important answers and coded with a smaller symbol. If they are surrounded only by different symbols there is a certain probability that the singularly occurring answers are erroneous answers. We did not want to eliminate them completely because there can be phenomena where such singular occurrences indicate rare variants. Thus, a clustering of singularly occurring answers could indicate a kind of transition area or change in progress. At the moment, most of the maps prepared for the atlas exhibit this design, based on a simple distinction between singularly occurring answers and multiple answers coded in the size of the symbol, e.g. a small dot or a larger dot, cf. Map 2 (variant *für*). This mapping technique can be considered based on a special kind of – more or less arbitrary – binary numerical classification of the data.

Another obvious possibility to visualise quantity would be the (proportional) coding of the relative quantity of a variant by the varying size of the chosen symbol, e.g. a circle. There are several arguments against this procedure. First, the absolute number of answers is often too small to allow a proportional representation. This objection was also raised by Iwar Werlen when we presented our first cartographic attempts to map dialect syntactic variation in 2002. It is, however, also valid in the case of a discontinuous quantitative classification, such as with the formation of three or more cohorts, e.g. one below 33%, another one from 33% through 66% and a third one above 66% (see Map 3) or the differentiation between a preponderant use (> 50) and minor important variants.





Map 2. Infinitival purposive clause (Q I.1); construction types



Map 3. Infinitival purposive clause (Q I.1): percentage of the *für*-construction

Even if we agree that a proportional presentation conceals the possible problem of small numbers, we are convinced that single small numbers and therefore misleading proportions are balanced by the great amount of surrounding values. Nevertheless, we refrain from using quantitative maps as main maps, regardless of whether they are proportional or not. We do use them, however, as a means of supplementary data presentation in order to visualise significant differences in the quantitative distribution, or the decrease or increase in the percentage of a variant in the geographical space not being visible as the consequence of the simple binary division between singularly occurring and multiple answers. Second, quantitative differences, in particular when a proportional coding is used, are difficult to perceive on a map, especially when there are several variants mapped together.<sup>10</sup> As we consider the geographical distribution the main motivation for mapping, we certainly prefer a mapping technique allowing for the perception of clustering in the geographical space. Third, if quantity is coded on the basis of cohorts, there is a certain amount of arbitrariness, let alone the problem of small numbers discussed above. Given all these problems, quantity based maps need some extra commentary supporting an adequate interpretation.

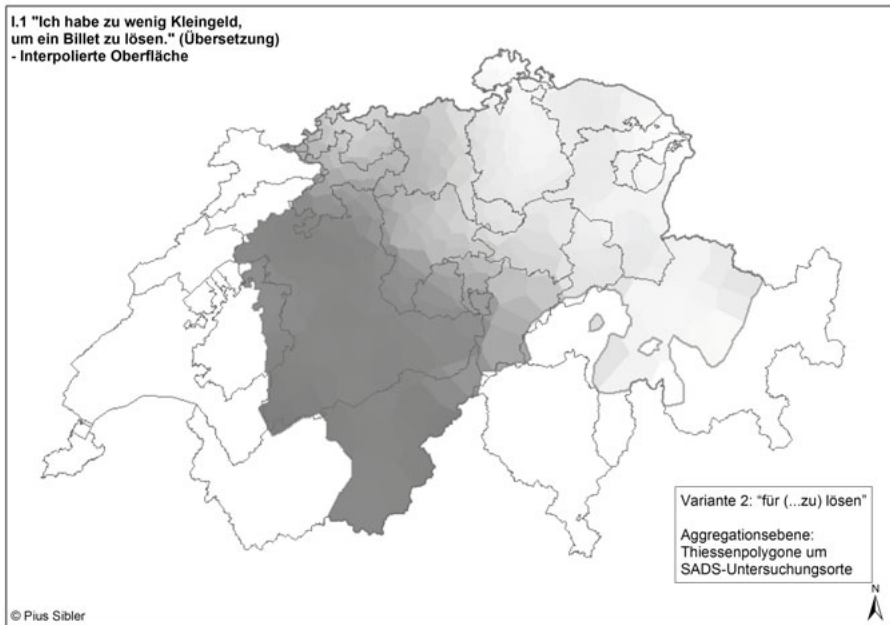
### 3.3. Colored symbols and color maps

Whereas traditional dialect atlases only rarely used colors, e.g. to provide additional information on the main topic of the map<sup>11</sup>, several recently published atlases even use color instead of different symbols. Such examples include the World Atlas of Language Structures (2005)<sup>12</sup> where different feature values are symbolized by differently colored circles, and the Syntactic Atlas of the Dutch Dialects (SAND) (2005, 2008) with its colored squares symbolizing different feature values, up to eight per location in a predefined arrangement. Color is indeed an effective means of presenting the distribution of two or three variants on a map. Thus, it is very easy to perceive the areal structure of the variants. This is, however, also true with black and white symbol maps if the symbols have been well chosen with respect to visibility.<sup>13</sup> Color maps very quickly reach the limit of visible discrimination which disables their use in the case of more numerous variants, whereas symbol maps are nearly unlimited in this respect. The choice of symbols, however, suitable for the visualization of feature clustering in the geographical space and likewise suitable for being located together at a certain point on the map is a challenging task. In sum, there are advantages

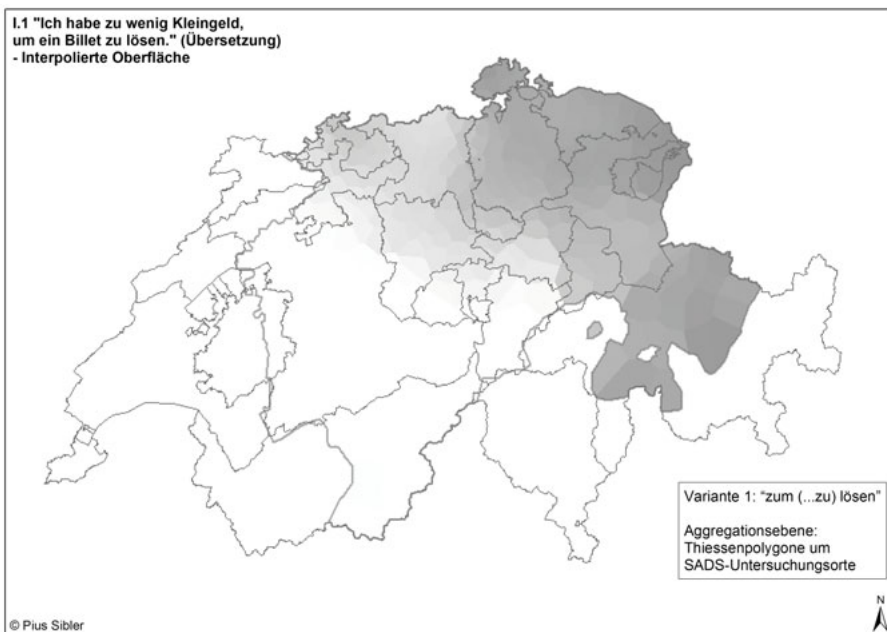
and disadvantages to each of these two methods, and it depends on what you primarily want to present which method to choose. Colored symbols no longer present such technical problems and there are fewer financial problems with respect to earlier times, meaning that one can freely choose the preferred method according to the objective. As a consequence we will integrate colored symbols in our maps where it is suitable and helpful. With respect to the use of colors the situation has certainly changed since 2005 when we invited some experts to a workshop on dialectal mapping. The majority of the invited linguists either voted against the use of colors, or gave the advice to only use them carefully. The experts from other fields, such as cartography, however, voted at least for the use of colored symbols, or else they recommended the use of choropleth maps covering the whole area and a renunciation of the exact allocation of symbols. The results of the cartographic experiments in the following years lead us to the decision to continue publishing point symbol maps, because we rate the principle of accuracy very high. Color maps help us to perceive areas of variants with a clearly distinct distribution, whereas symbol maps always seem misbalanced because of the empty space between the locations. Color maps can even visualize quantity with the help of shaded coloring (cf. Maps 4 and 5, transformed in black and white, cf. Sibling 2011). Yet they become problematic when there are several variants to be mapped together, especially if the variants overlap in their distribution. Whereas it is possible to put several symbols into a location, by using colors you get a mixture which is difficult or impossible to interpret with respect to the variants used in a certain place or region.<sup>14</sup>

There are many elaborate methods of creating color maps provided by various schools of dialectometry (cf. Goebel 2006; Heeringa 2004, 9–26) which we cannot discuss here. We also skip the question of how to get from a location to a surrounding area, which is essentially a technical problem. More important is the following: in most cases color maps are based on more abstract concepts such as difference and similarity between locations and on the aggregation of a certain amount of data. Recently, however, Rumpf et al. (2010) presented color maps based on the variants themselves. The shading of the color corresponds to their quantitative dominance over the other variants and the number of different colors codes the number of dominant variants. Sibling (2011) has created color maps based on several syntactic phenomena from our database following similar principles. On the corresponding maps (Map 4 and 5) one can see the intensity of the two types of infinitival purposive clauses (based on question I.1, as well as Map

2) with *für* and *zum*, respectively. Map 4 and 5 nicely show the distribution of the two variants, *zum* covering only the eastern part of Swiss German and *für* phasing out continuously in the east, a behavior referred to as inclined plane in Seiler (2005). On a blended map the distribution of the variants is to be seen only indirectly. A light coloring means that the variant dominates only weakly. With respect to the two syntactic variants presented here, a blended map still gives a good impression of their relative distribution in space. If there are maps with three or more variants, it can, however, happen that none of the further variants show up in the blended map. This is the case when a variant, although clustering in a certain region, is dominant scarcely anywhere, as e.g. the variants *weder*, *wie* and *wan* with respect to *als* connecting the standard of a comparison clause (e.g. *grösser weder ich* 'bigger than I') (Sibler 2011:44).



Map 4. Infinitival purposive clause: distribution of the *für*-construction



Map 5. Infinitival purposive clause: distribution of the *zum*-construction

This leads us to the conclusion that color maps are not suitable for an atlas which is intended to present the relevant information for all existing variants with certain accuracy. They are the result of various interpretative processes and as such interesting research tools for questions of more global and abstract character, as e.g. the similarity of dialects. They are not suited for a publication in the tradition of atlases to be used primarily as documentary research tools (Hotzenköcherle 1962: 142) which should allow a future user to develop his/her own interpretation from the data presented. In line with this goal, the SADS will contain symbol maps with a commentary accounting for the underlying data and their classification. It is not possible to present the data themselves for reasons of size and the kind of data which is mainly based on multiple choice elicitations in written questionnaires and not on transcribed interviews.

#### 4. Conclusion

Syntactic dialectology turns out to be an innovative branch of linguistics insofar as it is in line with recent theoretical developments concerning vari-

ation in grammar. This holds true with regard to aspects of crosslinguistic comparison as well as the organisation of individual grammars. In line with the empirical dialectological intention to provide reliable data on the basis of a transparent methodology of data collection and presentation, syntactic dialectology can contribute to the foundation of a sane empirical ground of a theory of linguistic variation building the base of a general understanding of language.

## Notes

1. Our own research was funded by the Swiss National Science Foundation (2000–2006).
2. Traditional dialectology preferred informants who were mostly farmers or artisans, male, not migrated for some generations, as old as possible.
3. See the list of the phenomena <http://www.ds.uzh.ch/dialektsyntax/>
4. The founders of the SDS were inspired by the *Atlas linguistique de la Wallonie* (1953–), cf. Haas (2004: 1); Hotzenköcherle (1962: 140).
5. Cf. Seiler (2005) for a discussion of the phenomenon on the basis of a preliminary analysis of the data.
6. For more details on the design of the project cf. Bucheli and Glaser (2002), Bucheli Berger (2008).
7. The SDS team mostly worked with two informants. Trüb (1989: 183) considers multiple answers a cartographic problem: “Mehrfachbelege sind, sofern man sie nicht unterdrückt [! E.G.], offenbar ein schwieriges Problem der Kartographie“. In the MRhSA survey multiple answers are rare despite several informants. The informants were asked to discuss variants in a team and evaluate them, in order to reach at the competence-based forms (“kompetenzielle Varianten”) (Bellmann 1994: 73–76).
8. It is not yet quite clear whether this is a peculiarity of syntax or only due to working with several informants.
9. The exact number varies from questionnaire to questionnaire (cf. Table 1) and from question to question, with a maximum of 3185 informants for the first questionnaire and 2774 for the last questionnaire.
10. In our online database created for teaching purposes the mapping tool allows a continuous symbolising (of one variant), but we noticed that the students preferred creating cohorts in order to support the dialectgeographic analysis.
11. Trüb (2003: 60) speaks of an additional level („eine weitere Kartenebene“) indicated by red symbols, e.g. referring to a semantic difference on lexical maps. The MRhSA uses red symbols in order to emphasize phonological or morphological differences between cohorts. The VALTS uses red symbols e.g. in order to indicate to Romance influence.

12. Cf. also the revised digital version: <http://wals.info/> Accessed on 2011-06-01.
13. For a discussion of the graphical principles of the SDS cf. Trüb (1989: 181–183). Cf. also Hotzenköcherle (1962: 142) who is convinced that a clever choice of symbols clustering on the map achieves a spatial effect.
14. As it was not possible to integrate color maps in the present volume, we refer to the map in Sibler (2011: 29) in order to illustrate the problem.

## References

Auer, Peter

- 2005 Europe's sociolinguistic unity, or: A typology of European dialect/standard constellations. In *Perspectives on Variation: Sociolinguistic, Historical, Comparative*, Nicole Delbecque, Johan van der Auwera, and Dirk Geeraerts (eds.), 7–42. (Trends in Linguistics, Studies and Monographs 163.) Berlin: de Gruyter.

Bellmann, Günther

- 1994 *Einführung in den Mittelrheinischen Sprachatlas (MRhSA)*. Tübingen: Max Niemeyer Verlag.

Bucheli, Claudia, and Elvira Glaser

- 2002 The syntactic atlas of Swiss German dialects: empirical and methodological problems. In *Syntactic Microvariation*, Sjöf Barbiere, Leonie Cornips and Susanne van der Kleij (eds.), vol. 2, 41–74. Amsterdam: Meertens Institute Electronic Publications in Linguistics. <http://www.meertens.knaw.nl/projecten/sand/sandworkshop/sandworkshopprog.html>

Bucheli Berger, Claudia

- 2008 Neue Technik, alte Probleme: auf dem Weg zum Syntaktischen Atlas der Deutschen Schweiz (SADS). In *Sprachgeographie digital – die neue Generation der Sprachatlanten (mit 80 Karten)*, Stephan Elspass, and Werner König (eds.), 29–44. (Germanistische Linguistik 190-191.) Hildesheim: Olms.

Chambers, Jack K.

- 2004 Dynamic typology and vernacular universals. In *Dialectology Meets Typology. Dialect Grammar from a Cross-Linguistic Perspective*, Bernd Kortmann (ed.), 127–145. Berlin/New York: de Gruyter.

Chambers, Jack. K., and Peter Trudgill

- 1998 *Dialectology*. 2nd edition. Cambridge: Cambridge University Press.

- De Vogelaer, Gunther, and Guido Seiler  
 forthc. The dialect laboratory: introductory remarks. In *The Dialect Laboratory: Dialects as a Testing Ground for Theories of Language Change*, Gunther de Vogelaer, and Guido Seiler (eds.). Amsterdam/Philadelphia: Benjamins.
- Fleischer, Jürg  
 to appear Hessische Pronominalsyntax: Ergebnisse einer Pilotstudie des Forschungsprojekts "Syntax hessischer Dialekte" (SyHD). In *Vielheit und Einheit in der Germanistik weltweit, Akten des 12. Kongresses der Internationalen Vereinigung für Germanistik, 30. Juli bis 7. August 2010, Warschau, Sektion Deutsche Dialekte und Regionalsprachen*, Elvira Glaser, and Ewa Żebrowska (eds.).
- Gerritsen, Marinel  
 1991 *Atlas van de Nederlandse Dialectsyntaxis (AND)*. Amsterdam: Meertens Instituut.
- Glaser, Elvira  
 1997 Dialektsyntax: eine Forschungsaufgabe. In *Schweizerdeutsches Wörterbuch. Bericht über das Jahr 1996*, 11–30. Rotkreuz: Zürcher Druck.  
 2000 Erhebungsmethoden dialektaler Syntax. In *Dialektologie zwischen Tradition und Neuansätzen. Beiträge der internationalen Dialektologentagung, Göttingen, 19.-21. Oktober 1998*, Dieter Stellmacher (ed.), 258–276. (ZDL-Beiheft 109.) Stuttgart: Steiner.
- Glaser, Elvira, and Natascha Frey  
 2007 Doubling phenomena in Swiss German dialects. In: *European Dialect Syntax Project. Papers presented at the Workshop on Syntactic Doubling in European Dialects, Amsterdam, March 2006*. Amsterdam.  
<http://www.dialectsyntax.org/index.php/dialect-syntax-archive-mainmenu-66/dialect-syntax-archive-mainmenu-61>
- Goebel, Hans  
 2006 Recent advances in Salzburg dialectometry. *Literary and Linguistic Computing* 21: 411–435.
- Haas, Walter  
 2004 Sprachatlanten als Darstellungsmittel der Dialektgeographie. Aus Anlaß des Erscheinens des Sprachatlases von Bayerisch-Schwaben. *Beiträge zur Geschichte der deutschen Sprache und Literatur* 126: 1–22.



Haspelmath, Martin

- 2001 The European linguistic area: Standard Average European. In *Language Typology and Language Universals*, Martin Haspelmath, Ekkehard König, Wulf Oesterreicher and Wolfgang Raible (eds.), 1492–1510. (Handbücher zur Sprach- und Kommunikationswissenschaft 20.) Berlin/New York: Walter de Gruyter.

Heeringa, Wilbert

- 2004 Measuring dialect pronunciation differences using Levenshtein distance. *Groningen Dissertations in Linguistics* 46: 9–26. <http://irs.ub.rug.nl/ppn/258438452>

Hockett, Charles F., and Stuart Altmann

- 1968 A note on design features. In *Animal Communication; Techniques of Study and Results of Research*, Thomas A. Sebeok (ed.), 61–72. Bloomington: Indiana University Press.

Hodler, Werner

- 1969 *Berndeutsche Syntax*. Bern: Francke.

Hotzenköcherle, Rudolf

- 1962 *Einführung in den Sprachatlas der deutschen Schweiz. A. Zur Methodologie der Kleinraumatlanten*. Bern: Francke.

Kallenborn, Tim

- subm. Ein Ansatz zur Erhebung regionalsprachlicher Syntax. Überlegungen am Beispiel von Pronominaladverbien im Moselfränkischen. In *Akten des 3. IGDD-Kongresses in Zürich 2009*, Patocka, Franz (ed.).

Kayne, Richard S.

- 2005 Some notes on comparative syntax, with special reference to English and French. In *The Oxford Handbook of Comparative Syntax*, Guglielmo Cinque, and Richard S. Kayne (eds.), 3–69. Oxford: Oxford University Press.

Kortmann, Bernd

- 2009 Die Rolle von (Nicht-Standard-)Varietäten in der europäischen (Areal-)Typologie. In *Eurolinguistik: Entwicklung und Perspektiven*, Uwe Hinrichs, Norbert Reiter, and Siegfried Törnøw (eds.), 165–187. Wiesbaden: Harrassowitz.
- 2010 Areal variation in syntax. In *Language and Space. Vol 1: Theories and Methods*, Peter Auer, and Jürgen Erich Schmidt (eds.), 837–864. Berlin/New York: de Gruyter.

Löffler, Heinrich

- 2003 *Dialektologie: eine Einführung*. Tübingen: Narr.

Lötscher, Andreas

- 1993 Zur Genese der Verbverdoppelung. In *Dialektsyntax*, Werner Abraham and Josef Bayer (eds.), 180–200. Opladen: Westdeutscher Verlag.

- 2004      Dialektsyntax oder Syntax der gesprochenen Sprache? Eine Fallstudie anhand von Nebensatzproblemen im Schweizerdeutschen. *Zeitschrift für Dialektologie und Linguistik* 71: 156–179.
- Louden, Mark L.
  - 2005      The Logic of Nonstandard Syntax (Discussion Article). *Zeitschrift für Dialektologie und Linguistik* 72: 167–182.
- MRhSA = *Mittelrheinischer Sprachatlas*, Bellmann, Günter, Joachim Herrgen and Jürgen Erich Schmidt (eds.). In collaboration with Georg Drenda, Heiko Girnth, and Marion Klenk. 5 vols. Tübingen: Niemeyer, 1994–2002.
- Naumann, Carl Ludwig
  - 1982      Kartographische Datendarstellung. In *Dialektologie*, Werner Besch, Ulrich Knoop, Wolfgang Putschke, and Herbert E. Wiegand (eds.), 667–692. (Handbücher zur Sprach- und Kommunikationswissenschaft 1.) Berlin/New York: Walter de Gruyter.
- Patocka, Franz
  - 1989      Dialektsyntax und Syntaxgeographie – Möglichkeiten und Grenzen. In *Dialektgeographie und Dialektologie: Günter Bellmann zum 60. Geburtstag von seinen Schülern und Freunden*, Wolfgang Putschke, Werner Veith, and Peter Wiesinger (eds.), 47–56. (Deutsche Dialektgeographie 90.) Marburg: Elwert.
- Rumpf, Jonas, Simon Pickl, Stephan Elspass, Werner König, and Volker Schmidt
  - 2010      Quantification and statistical analysis of structural similarities in dialectological area-class maps. *Dialectologia et Geolinguistica* 18: 73–98.
- SAND = *Syntactische Atlas van de Nederlandse Dialecten / Syntactic Atlas of the Dutch Dialects*, Barbiers, Sjef, Johan van der Auwera, Hans Bennis, Eefje Boef, Gunther de Vogelaer, and Margreet van der Ham (eds.), 2 vols. Amsterdam: Amsterdam University Press, 2005, 2008.
- Schallert, Oliver
  - 2010      Beobachtungen zur Infinitivsyntax des Vorarlberger Alemannischen. In *Alemannische Dialektologie: Wege in die Zukunft. Beiträge zur 16. Arbeitstagung für Alemannische Dialektologie in Freiburg/Fribourg vom 07.–10.09.2008*, Helen Christen, Sibylle Germand, Walter Haas, Nadia Montefiori, and Hans Ruef (eds.), 133–148. (ZDL Beiheft 141.). Stuttgart: Steiner.
- SDS = Hotzenköcherle, Rudolf, Robert Schläpfer, Rudolf Trüb and Paul Zinsli (eds.), *Sprachatlas der Deutschen Schweiz*. 8 vols. Bern: Francke, 1962–2003.

Seiler, Guido

- 2005 Wie verlaufen syntaktische Isoglossen, und welche Konsequenzen sind daraus zu ziehen? In *Moderne Dialekte – neue Dialektologie*, Eckhard Eggers, Jürgen E. Schmidt, and Dieter Stellmacher (eds.), 313–341. (ZDL Beiheft 130.) Stuttgart: Steiner.

Seiler, Guido

- 2010 Investigating language in space: questionnaire and interview. In *Language and space. An International Handbook of Linguistic Variation, Vol. 1: Theories and Methods*. Auer, Peter, and Jürgen E. Schmidt (eds.), 512–527 (Handbooks of Linguistics and Communication Science HSK.) Berlin: Mouton de Gruyter.

Sibler, Pius

- 2011 Visualisierung und geostatistische Analyse mit Daten des Syntaktischen Atlas der Deutschen Schweiz (SADS). Master thesis, Department of Geography, University of Zurich.  
[http://www.geo.uzh.ch/fileadmin/files/content/abteilungen/gis/research/msc\\_thesis/msc\\_pius\\_sibler\\_2011.pdf](http://www.geo.uzh.ch/fileadmin/files/content/abteilungen/gis/research/msc_thesis/msc_pius_sibler_2011.pdf)

Sperschneider, Heinz

- 1959 *Studien zur Syntax der Mundarten im östlichen Thüringer Wald*. (Deutsche Dialektgeographie 54.) Marburg: Elwert.

Tatzreiter, Herbert

- 1989 Syntaxgeographie – ein fruchtloser Zweig der Dialektologie? Versuch zu seiner Belebung. In *Bayerisch-österreichische Dialektforschung. Würzburger Arbeitstagung 1986*, Erwin Koller, Werner Wegstein, and Norbert R. Wolf (eds.), 234–250. Würzburg: Königshausen & Neumann.

Trüb, Rudolf

- 1989 Möglichkeiten der Dialektkartographie. Erfahrungen am “Sprachatlas der deutschen Schweiz”. In *Dialektgeographie und Dialektologie: Günter Bellmann zum 60. Geburtstag von seinen Schülern und Freunden*, Wolfgang Putschke, Werner Veith, and Peter Wiesinger (eds.), 178–194. (Deutsche Dialektgeographie 90.) Marburg: Elwert.
- 2003 Sprachatlas der deutschen Schweiz Abschlussband (Werkgeschichte, Publikationsmethode, Gesamtregister). Unter Mitarbeit von Lily Trüb. Tübingen/Basel: A. Francke Verlag.

Trubetzkoy, Nikolaj S.

- 1939 *Grundzüge der Phonologie* (Travaux du Cercle Linguistique de Prague 7.) Prag.

VALTS =

- Gabriel, Eugen (ed.), *Vorarlberger Sprachatlas: mit Einschluss des Fürstentums Liechtenstein, Westtirols und des Allgäus*. Bregenz: Vorarlberger Landesbibliothek, 1985–2006.

- WALS = Haspelmath, Martin, Matthew S. Dryer, David Gil and Bernard Comrie (eds.), *The World Atlas of Language Structures*. Oxford: Oxford University Press, 2005. (Matthew S. Dryer, and Martin Haspelmath (eds.), *The World Atlas of Language Structures Online*. Munich: Max Planck Digital Library, 2011. <http://wals.info/>).
- Weinreich, Uriel  
1954 Is a structural dialectology possible? *Word* 10: 388–400.
- Weise, Oskar  
1909 Der gegenwärtige Stand der Forschung auf dem Gebiet der Syntax deutscher Mundarten. *Germanisch-romanische Monatsschrift* 1: 733–742.
- Weiß, Helmut  
2001 On two types of natural languages. Some consequences for linguistics. *Theoretical Linguistics* 27: 87–103.
- Werlen, Iwar  
1994 Neuere Fragestellungen in der Erforschung der Syntax deutscher Dialekte. In *Dialektologie des Deutschen. Forschungsstand und Entwicklungstendenzen*, Klaus Mattheier, and Peter Wiesinger (eds.), 49–75. (Germanistische Linguistik 147.) Tübingen: Niemeyer.
- Whorf, Benjamin Lee  
1941 The relation of habitual thought and behavior to language. In *Language, Culture, and Personality: Essays in Memory of Edward Sapir*, Leslie Spier (ed.), 75–93. Menasha, Wis.: Sapir Memorial Publication Fund.
- Winteler, Jost  
1876 *Die Kerenzer Mundart des Kantons Glarus in ihren Grundzügen dargestellt*. Leipzig/Heidelberg: Winter.